

REMARKS

This is in full and timely response to the Office Action mailed December 10, 2003, submitted concurrently with a Petition for Extension of Time to within the first extended month. By this Amendment, claim 4 was amended to recite that the concentrate does not substantially include lower alcohol. Support for this amendment can be found variously throughout the specification, for example, at page 8, lines 24-25. Claim 5 was amended to depend from claim 4. No new matter was added. Claims 4-9 are pending in this application, with claim 4 being independent. By this Amendment, Applicant believes that all pending claims are in condition for allowance. Reexamination and reconsideration in light of the above amendments and the following remarks is respectfully requested.

Rejections under 35 U.S.C. §102

Claim 4 is rejected under 35 U.S.C. 102(b) as anticipated by Canadian Patent No. 1166374 to Suk. Applicant respectfully traverses this rejection.

Claim 4 recites a single phase propellant-concentrate aerosol composition for use in the spray application of an active ingredient from a pressurized container, consisting essentially of: (a) a concentrate of 10 to 60 wt %, the concentrate consisting essentially of (i) an oil ingredient of 30 to 90 wt %, (ii) polyol of 5 to 50 wt %, (iii) water of 1 to 40 wt %, and (iv) the active ingredient of 0.1 to 20 wt %; (b) a dimethyl ether propellant of 90 to 40 wt %; wherein the concentrate does not have a flash point under 1 atmosphere of pressure and does not substantially include lower alcohol.

Generally, the oil ingredient such as hydrocarbon, used as the solvent, has a low flash point and lowers the flash point of the concentrate when in a high ratio. On the other hand, when the concentrate consists of a high ratio of water to not have a flash point, it will be difficult to dissolve both the water and the oil ingredient in the dimethyl ether. Additionally, as stated in the specification, "the aerosol composition according to the present invention may contain other than the essential ingredients, various ingredients such as lower alcohol,...." See page 9, lines 24-25. See also page 9, lines 3-7. Accordingly, as the claim uses the transitional phrase "consisting essentially of", it is appropriate to further limit the claim as not substantially including lower alcohol.

Thus, the aerosol composition of claim 4 has the following components:

- (A) a concentrate of 10 to 60 wt%
 - (a) an oil ingredient of 30 to 90 wt %
 - (b) a polyol of 5 to 50 wt %
 - (c) a water of 1 to 40 wt %
 - (d) an active ingredient of 0.1 to 20 wt %
 - (e) the concentrate does not substantially include lower alcohol
 - (f) the concentrate does not have a flash point under 1 atmosphere
- (B) a dimethyl ether (DME) propellant of 90 to 40 wt %
- (C) the aerosol composition of the concentrate and the propellant form a single phase.

Suk '374 discloses a single phase liquid propellant-solvent composition, such as water-based paints, suitable for use in spray application of an active ingredient from a pressurized container onto a substrate surface. Suk '374 consists essentially of

- (I) a propellant-solvent composition of 75 to 92 wt%
 - (i) DME of about 20 to about 75 wt%
 - (ii) Water of 10 to about 50 wt%
 - (iii) at least aliphatic monohydric alcohol of about 1 to about 30 wt%
(of the formula: R-OH wherein R is an unsubstituted straight or branched chain alkyl group containing from 1 to 6 carbon atoms)
 - (iv) at least one coalescing solvent of 1 to 15 wt% (includes glycol)
 - (v) the propellant-solvent composition forms a single phase
- (II) a film-forming polymer of water-soluble or water-dilutable emulsified polymer of 6 to 25 wt% (includes effective ingredient such as pigment)

The film-forming polymer disclosed in Suk '374 is water-soluble or water-dilutable polymer that forms emulsion with water, when the aerosol composition of the film-forming polymer and the propellant-solvent composition is sprayed to the target such as a wall, the sprayed composition attaches to the target and forms a coating film after the propellant and the solvent (water, aliphatic alcohol and coalescing composition) evaporate. See page 5, lines 1-5. In addition, the film-forming polymer also fixes the effective ingredient such as pigment particles to the target.

In contrast, the aerosol composition of claim 4, which forms a single phase in the aerosol container forms a fine liquid mist at the time of the spraying and disperses. Further, the oil ingredient that attaches to the target does not form a coating film despite the evaporation of the propellant and the solvent (water, polyol). That is, the film-forming polymer of Suk '347 and the oil ingredient of claim 4 are totally different.

The Office Action alleges that "the oil ingredient are present in page 5, line 19-24," however, as discussed above, the film-forming polymer of Suk '374 forms the coating film when the propellant and the solvent evaporate after spraying.

In Suk '374 examples 1 to 8 and 10 comprise Dictotyl phthalate for the elastizer that can be recognized as an oil ingredient. However, the weight percentage of the Dictotyl phthalate is very small, approximately 0 to 1.2 wt% and it is not the major component of the concentrate.

Further, Suk '374 discloses that the composition is non-flammable, however this is based on a flame test. See page 4, line 37. The flame test is carried out by spraying the aerosol composition to a flame having a flame pattern of 5 cm ling from 15 cm away and examining the flame pattern to determine if the flame length increases. This does not mean that the concentrate does not have a flash point under 1 atmosphere of pressure, and Suk '374 does not disclose, teach or suggest anything about not having a flash point.

The Office Action firther alleges that the Declaration submitted with the previous response does not show control or instant composition of the flash point. However, the film-forming polymer that forms a solid state when the solvent volatizes, does not affect the flash point of the concentrate having large amount of lower alcohol. Accordingly, the Declaration previously filed does show the control of the example in Suk '374. Applicant again submits a declaration that shows the flash point of the concentrate based on example 2 of Suk '374.

Accordingly, Suk '374 does not disclose, teach or suggest components (A)(a), (A)(e) and (A)(f) discussed above.

A document can only anticipate a claim if the document discloses, explicitly or implicitly, each and every feature recited in the claim. Verdegall Bros. v. Union Oil Co. of Calif., 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). Since Suk '374 fail to disclose, either explicitly or implicitly, teach or suggest at least the above-noted features recited in independent claim 4, Suk '374 cannot anticipate the claim. At least in view of the foregoing, claim 4 is allowable.

Applicant notes that the rejection was stated as pertaining only to claim 4. However, the Office Action at page 2, line 7, refers to claims 4-6 and Suk '374. Not statement of rejection was made regarding claims 5-6. Dependent claims 5-6, depending from claims 4, are also allowable for the reasons above. Moreover, these claims are further distinguished by the materials recited therein, particularly within the claimed combination.

Withdrawal of this rejection is requested.

Claims 4-6 are rejected under 35 U.S.C. §102(a) as being anticipated by European Patent No. 0 888 716 to Watanabe et al. Applicant respectfully traverses this rejection.

The example 5 of Watanabe '716 discloses the aerosol composition as follows:

(I) 55 parts of concentrate comprising 25 parts of isopropanol including 5 parts hyssop oil, 2 parts carane-3,4-diol, and 0.2 parts allethrin and 30 parts of deionized water. Converted to wt% in the concentrate:

- (i) hyssop oil of approximately 9.1 wt% (oil ingredient and effective ingredient)
- (ii) carane-3,4-diol of approximately 3.6 wt% (polyol)
- (iii) water of approximately 54.5 wt%
- (iv) allethrin of approximately 0.4 wt% (effective ingredient)

(II) 45 parts DME for propellant.

As shown above, the ratio of the oil ingredient, polyol and water disclosed in Watanabe '716 are different from the ration of claim 4, discussed above. That is, the Office Action alleges that "Although the instant concentration are not used in this example, formulation were stated to incorporate oil at 0.1 to 50%. See first office action, paper no. 7, page 3, lines 9-11. However, one cannot change the ratio of hyssop oil of example 5 from approximately 9.1 wt% to 30 wt% without deviating from the ration of the other elements of claim 4. Accordingly, Watanabe '716 cannot anticipate claim 4.

Still further, Watanabe '716 does not disclose, teach or suggest that the concentrate of the aerosol composition does not have a flash point under 1 atmosphere pressure.

Accordingly, Watanabe '716 does not disclose, teach or suggest claim components (A)(a), (A)(b), (A)(c), (A)(e) and (A)(f) of claim 4.

A document can only anticipate a claim if the document discloses, explicitly or implicitly, each and every feature recited in the claim. Verdegall Bros. v. Union Oil Co. of Calif., 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). Since Watanabe '716 fails to disclose, either explicitly or implicitly, teach or suggest at least the above-noted features recited in independent claim 4, Watanabe '716 cannot anticipate the claim. At least in view of the foregoing, claim 4 is allowable.

Dependent claims 5-6, depending from claims 4, are also allowable for the reasons above. Moreover, these claims are further distinguished by the materials recited therein, particularly within the claimed combination.

Withdrawal of this rejection is requested.

Rejections under 35 U.S.C. §103

Claims 4-9 are rejected under 35 U.S.C. 103(a) as anticipated by European Patent No. 0 888 716 to Watanabe et al. and U.S. Patent No. 5,620,678 to Burke and U.S. Patent No. 5,055,299 to Dohara et al. Applicant respectfully traverses this rejection.

Burke '678 discloses an aerosol composition as follows:

(I) a concentrate (numbers below are percentage in the aerosol composition):

- (i) diluents of 25 to 90% (water or petroleum distillates (oil ingredient))
- (ii) insecticide of 0.01 to 10% (effective ingredient) not soluble in diluents
- (iii) additives of no more than 25% (IPA(co-solvent), corrosive)

(II) DME as propellant of 10 to 75%.

(III) whole aerosol composition of the concentrate and the propellant forms a single phase

First, the aerosol composition of Burke '678 does not include polyol, which is a requirement of claim 4. Further, Burke '678 discloses that a concentrate does consist of water or petroleum distillates but does not use both diluents at the same time because including both will solute the insecticide. If both diluents are used in the concentrate, this will result against the action disclosed in Burke '678, that the aerosol composition sprayed to the objective dissolute into effective ingredient and diluents. In fact, in examples 1 to 5 of Burke '678 include water-

insoluble effective ingredient and water as the diluents, and does not include an oil ingredient. The example 6 of Burke '678 includes oil-insoluble effective ingredient and water as diluents.

Accordingly, Burke '678 does not disclose, teach or suggest claim components (A)(a), (A)(b), or (A)(b), (A)(c) of claim 4.

Dohara et al. '299 discloses an aerosol composition as follows:

(I) a concentrate:

(i) effective ingredient of 0.01 to 2 wt%

(ii) organic solvent of 20 to 70 wt%

(iii) buffer for conditioning the pH from 7.0 to 9.0 of 10 to 55 wt%

(II) DME as propellant of 10 to 80 wt%.

The organic solvent (group III) in Dohara et al. '299 are monohydric alcohol or polyol soluble in water. The result is that Dohara et al. '299 does not disclose, teach or suggest claim components (A)(a) of claim 4.

The Office Action alleges that the isopropanol used as diluents can be replaced based on Burke '678 and Dohara et al. '299. However, Burke '678 and Dohara et al. '299 do not disclose any aerosol composition that have both water and oil ingredients, and accordingly, it would not be obvious that the above changes be made. Moreover, even though the isopropyl alcohol of example 5 of Watanabe '716 is changed to polyol based on Dohara et al. '299, it still does not satisfy the ration of oil ingredient and polyol which is the components (A)(a), (A)(b) of claim 4.

Still further, the aerosol composition where the concentrate does not have a flash point under 1 atmosphere and include particular ratios of oil ingredient, water and polyol together with DME to form a single phase is not disclosed, taught or suggest, either alone or in combination, by Watanabe '716, Burke '678 and Dohara et al. '299, onor would it be obvious to one of skill in the art. Accordingly, a prima facie case has not been presented, and withdrawal of the rejection is requested.

Dependent claims 5-9, depending from claims 4, are also allowable for the reasons above. Moreover, these claims are further distinguished by the materials recited therein, particularly within the claimed combination.

Withdrawal of this rejection is requested.

Claims 4-9 are rejected under 35 U.S.C. 103(a) as anticipated by WO 96/22686 to Nelson in view of U.S. Patent No. 5,055,299 to Dohara et al. Applicant respectfully traverses this rejection.

Nelson '686 discloses an aerosol composition that forms an emulsion. In contrast, the aerosol composition of claim 4 is a single phase composition that does not form an emulsion. Accordingly, Nelson '686 does not satisfy component (C) of claim 4, discussed above.

Additionally, it would not be obvious to displace isopropyl alcohol with glycol of the composition having water and oil ingredient as discussed above. However, even if the isopropyl alcohol is displaced with glycol, the aerosol composition having glycol also forms an emulsion.

Accordingly, a prima facie case of obviousness has not been presented, and the withdrawal of the rejection is requested.

Dependent claims 5-9, depending from claims 4, are also allowable for the reasons above. Moreover, these claims are further distinguished by the materials recited therein, particularly within the claimed combination.

Withdrawal of this rejection is requested.

CONCLUSION

For the foregoing reasons, all the claims now pending in the present application are believed to be clearly patentable over the prior art of record. Accordingly, favorable reconsideration of the claims in light of the above remarks is courteously solicited. If the Examiner has any comments or suggestions that could place this application in even better form, the Examiner is requested to telephone the undersigned attorney at the below-listed number.

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Respectfully submitted,

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